

WHAT IS CLAIMED IS:

1. A data transfer control system connected to a bus for controlling a data transfer to a device on the bus, comprising bus cycle control means for performing a data write
5 operation while maintaining a write control line of the bus in a write-disabled state.

2. A data transfer control system connected to a bus for controlling a data transfer to a device on the bus, comprising:

data storing means for storing data;

10 transferred-word number storing means for storing the number of words of data which are to be transferred;

transfer interval storing means for storing an interval between destination addresses for one-word data; and

bus cycle controlling means for controlling the data transfer such that,
15 during a burst transfer, a write control line of the bus is placed in a write-enabled state with the interval stored in the transfer interval storing means and is placed in a write-disabled state in the other periods, and that data including a number of words which is equal to the number stored in the transferred-word number storing means is transferred while the write control line is in the write-enabled state.

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3. The data transfer control system of claim 2, further comprising:

cycle start address storing means for storing a start address of a bus cycle;

resumption address calculating means for calculating a destination address
of second data when being informed by the device about interruption of the data transfer
25 during the time when the data transfer is performed in the write-disabled state; and

interrupted-cycle resuming means for transferring the address calculated by the resumption address calculating means to the cycle start address storing means to start a new bus cycle from the address stored in the cycle start address storing means when being informed by the device about interruption of the data transfer during the time when the data transfer is performed in the write-disabled state.

4. The data transfer control system of claim 2, further comprising:

response speed storing means for storing a device response speed of a target device;

transfer speed comparing means for comparing the data transfer rate in a burst transfer mode with the data transfer rate in a data transfer mode where transfer of one-word data to a destination address is repeated, based on the values of the transfer interval storing means and the response speed storing means; and

transfer mode selecting means for selecting the burst transfer mode if the data transfer rate is faster in the burst transfer mode than in the data transfer mode where transfer of one-word data to a destination address is repeated and, if otherwise, selecting the data transfer mode where one-word data transfer bus cycle for a destination address is repeated.

5. The data transfer control system of claim 3, further comprising:

response speed storing means for storing a device response speed of a target device;

transfer speed comparing means for comparing the data transfer rate in a burst transfer mode with the data transfer rate in a data transfer mode where transfer of one-word data to a destination address is repeated, based on the values of the transfer

interval storing means and the response speed storing means; and

transfer mode selecting means for selecting the burst transfer mode if the data transfer rate is faster in the burst transfer mode than in the data transfer mode where transfer of one-word data to a destination address is repeated and, if otherwise, selecting
5 the data transfer mode where one-word data transfer bus cycle for a destination address is repeated.

6. The data transfer control system of claim 2, wherein the bus cycle controlling means drives next one-word data to be transferred onto a data line when the write control line is in
10 the write-disabled state.

7. The data transfer control system of claim 3, wherein the bus cycle controlling means drives next one-word data to be transferred onto a data line when the write control line is in
15 the write-disabled state.

8. The data transfer control system of claim 4, wherein the bus cycle controlling means drives next one-word data to be transferred onto a data line when the write control line is in
the write-disabled state.

20 9. A data transfer control system, comprising bus response means for informing, when a data write operation is performed while a write control line of a bus is in a write-disabled state, reception of data earlier than in the case where the write control line is in a write-enabled state.

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10. A data transfer control system, comprising:

storing means for storing an interval between destination addresses of data;

and

controlling means for obtaining, when a data write operation is performed

5 while a write control line of a bus is in a write-disabled state, a next address where the write control line is turned into a write-enabled state based on a value stored in the storing means to write a value of a signal driven onto a data line in the obtained address.

11. A data transfer control system connected to a bus for controlling a data transfer to a

10 device on the bus, comprising:

data storing means for storing data;

transferred-word number storing means for storing the number of words of data which are to be transferred;

15 non-transfer interval storing means for storing an interval between addresses to which the data is not to be transferred;

bus cycle controlling means for controlling the data transfer such that, during a burst transfer, a write control line of the bus is placed in a write-disabled state with the interval stored in the non-transfer interval storing means and is placed in a write-enabled state in the other periods, and that data including a number of words which is
20 equal to the number stored in the transferred-word number storing means is transferred while the write control line is in the write-enabled state.

12. A data transfer control method for controlling a data transfer to a device on a bus, comprising:

25 a data storing step of storing data;

a transferred-word number storing step of storing the number of words of data which are to be transferred;

a transfer interval storing step of storing an interval between data destination addresses; and

- 5 a bus cycle controlling step of controlling the data transfer such that, during a burst transfer, a write control line of the bus is placed in a write-enabled state with the interval stored at the transfer interval storing step and is placed in a write-disabled state in the other periods, and that data including a number of words which is equal to the number stored at the transferred-word number storing step is transferred while the write control
- 10 line is in the write-enabled state.